

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Cancelled)

2. (Currently Amended) ~~An image pickup apparatus according to claim 1,~~ An image pickup apparatus comprising:

an array of unit cells arranged in rows and columns, each unit cell having

a light-receiving device configured to receive light and generate an electric charge corresponding to the light,

a charge-accumulating section configured to accumulate the electric charge generated by the light-receiving device,

a transfer device configured to transfer the electric charge from the light-receiving device to the charge-accumulating section, a charge-limiting device configured to limit the electric charge accumulated in the charge-accumulating section, and

an amplifying device configured to amplify a voltage signal corresponding to the electric charge in the charge-accumulating section, wherein

the electric charge generated in the light-receiving device is accumulated in the light-receiving device when an OFF voltage is applied to the transfer device, and the electric charge generated and accumulated in the light-receiving device is transferred from the light-receiving device to the charge-accumulating section when an ON voltage is applied to the transfer device;

a plurality of vertical signal lines extending along the columns of unit cells, during a first period and transferred to the charge-accumulating section through the transfer device, to cause the charge-accumulating section to hold the electric charge limited by the charge-limiting device, and to add to the electric charge held in the charge-accumulating section, an electric charge generated by the light-receiving device during a second period following the first period and transferred to the charge-accumulating section through the transfer device wherein

the control circuit controls each of the unit cells of the same row such that the charge-limiting device limits the charge accumulated in the charge-accumulating section, during a horizontal blanking period, and the charge transferred to the charge-accumulating section is added to the charge accumulated in the charge-accumulating section, during a different horizontal blanking period.

3. (Currently Amended) ~~An image pickup apparatus according to claim 1~~ An image pickup apparatus comprising:

an array of unit cells arranged in rows and columns, each unit cell having

a light-receiving device configured to receive light and generate an electric charge corresponding to the light,

a charge-accumulating section configured to accumulate the electric charge generated by the light-receiving device,

a transfer device configured to transfer the electric charge from the light-receiving device to the charge-accumulating section, a charge-limiting device configured to limit the electric charge accumulated in the charge-accumulating section, and

an amplifying device configured to amplify a voltage signal corresponding to the electric charge in the charge-accumulating section, wherein

the electric charge generated in the light-receiving device is accumulated in the light-receiving device when an OFF voltage is applied to the transfer device, and the electric charge generated and accumulated in the light-receiving device is transferred from the light-receiving device to the charge-accumulating section when an ON voltage is applied to the transfer device;

a plurality of vertical signal lines extending along the columns of unit cells, during a first period and transferred to the charge-accumulating section through the transfer device, to cause the charge-accumulating section to hold the electric charge limited by the charge-limiting device, and to add to the electric charge held in the charge-accumulating section, an electric charge generated by the light-receiving device during a second period following the first period and transferred to the charge-accumulating section through the transfer device, wherein

the control circuit controls the unit cells such that the charge-limiting device limits the charge to be accumulated in the charge-accumulating section and the charge transferred to the charge-accumulating section is added to the charge accumulated in the charge-accumulating section, during the same vertical blanking period in all cell units.

4. (Currently Amended) An image pickup apparatus according to ~~claim 1~~Claim 2 or Claim 3, wherein the first period is longer than the second period.

5 -12. (Cancelled)

13. (Currently Amended) An image pickup apparatus according to ~~claim 1~~Claim 2 or Claim 3, wherein the light-receiving device is formed of a photodiode comprising an n-type region formed in a surface of a p-type substrate and a p-type region formed in a surface of the n-type region.

14 - 16. (Cancelled)